DOCUMENTATION AND CERTIFICATION

Practice Support Documentation

All technical supporting data will be maintained in the client's field office case file. Supporting data is required for both cost share and non-cost share practices in which NRCS, SWCD, and MDC employees and technical service providers (TSP) working under NRCS authority were involved with the practice design, installation, or application.

A conservation practice is a component of a conservation system that accomplishes the land user's conservation objective. Supporting data is to include a record of planning, design, installation, checking, and maintenance necessary to insure an effective practice application.

Supporting data documentation shall include those characteristics of a practice that can be measured, surveyed, tested, or observed. The completed work is to be checked against the plans and specifications or other requirements to insure a satisfactory job. Check out notes or observations become a part of the supporting data along with previous planning, layout, or documentation records. *Anyone documenting completion of a conservation practice shall sign and date a certification statement that the practice meets NRCS standards and specifications.* (Conservation Practice Installation Check, MO-ENG-C74 revised June, 1995 or similar forms may be used to document certification of practice installation.)

Location identification is required for all practices. This documentation may be a sketch on the job plans, field notes, aerial photographs, special forms, or a reference to the conservation plan map. The location description shall include the field, tract, and farm number.

Design data and documentation shall be sufficient to show that the installation meets NRCS standard and specification criteria. The following documentation guidelines for practices are listed for Missouri standards:

1) Access Road (560) – drainage areas for roadside ditches; sizes and grades of culverts, ditches, bridges; traffic counts; traffic loads; profiles and cross sections of roadbed and watercourse crossings; quantities and materials; seeding criteria and acreage; roadway surface; roadway drainage.

2) Alley Cropping (311) – conservation tree/shrub suitability group; site preparation; species; spacing in row and between rows; date and method of planting; acreage; number of trees; management following planting; erosion prediction.

3) Brush Management (314) – target species for control; method of control; if chemical control, mitigation practices and hazard potential reports; existing desired cover.

4) Clearing and Snagging (326) – volume of debris to be remove; channel capacities before removing debris and after removing debris; channel profiles and cross sections; marking of channel access points and clearing limits; disposal area marking; seeding criteria and acreage

5) Composting Facility (317) – geologic investigation for soil permeability; topography survey information; prevailing wind directions; facility location; animal loss rates and storage period; facility size; operating ranges for C:N ratio, pH, moisture and temperature.

6) Conservation Cover (327) – acreage; species or mixtures seeded; Pure Live Seed (PLS) seeding rate, seeding date, and adequacy of seeding; seedbed preparation; seeding equipment used; type, date, and amount of fertilizer and lime applied

7) Conservation Crop Rotation (328) – recurring crop sequence; summary of soil conditioning indices; crop varieties; acreage.

8) Contour Buffer Strips (332) – grade on buffer strip; width and length of buffer strips; width of crop strips; species or mixtures seeded; PLS seeding rate; seeding date; adequacy of seeding (if applicable); seedbed preparation; seeding equipment used; type, date, and amount of fertilizer and lime applied; acreage.

9) Contour Farming (330) – distance and grade toward watercourse(s) along key contour line; acreage.

10) Contour Stripcropping (585) - layout (gradient and direction) of strips; crops or vegetation established on strips; width of strips; erosion estimate; acreage.

11) Cover and Green Manure Crop (340) – seedbed preparation; species or cultivar planted; planting date, rate, and depth; planting equipment used; adequacy of planting (if applicable); date and method to destroy cover; acreage.

12) Critical Area Planting (342) – species or mixtures seeded; PLS seeding rate; seeding date; adequacy of seeding (if applicable); type of seedbed preparation; type and amount of mulch, fertilizer, and lime applied; acreage.

13) Cross Wind Ridges (589A) – ridge height, spacing and direction; date established; direction of prevailing winds; acreage.

14) Cross Wind Stripcropping (589B) – *See Contour Stripcropping*

15) Cross Wind Trap Strip (589C) – direction of prevailing winds; width of crop strips; width and length of trap strips; species or mixtures seeded; PLS seeding rate; seeding date; adequacy of seeding (if applicable); seedbed preparation; seeding equipment used; type, date, and amount of fertilizer and lime applied; acreage seeded.

16) Dam, Diversion (348) – hazard classification and drainage area; profile and cross section of dam and earth spillway; size and elevations of pipe inlet and outlet; pipe appurtenances; pipe flow calculations; depth and area of pool; yardage computations when needed; quantities of materials and clearing; seeding criteria and acreage.

17) Dike (356) – profiles and cross sections of dike centerline; delineated borrow areas; soil mechanics testing and analysis, water surface profiles with and without dike; seeding criteria and acreage.

18) Diversion (362) – profile of channel and ridge; cross section; length; adequacy of outlet; drainage area; seeding criteria and acreage.

19) Dry Hydrant (432) – calculations of required water volume; available water supply volume; length of pipe by size and type; static pump lift in feet; adequacy of access; description of strainer; yardage computations when needed; seeding criteria.

20) Early Successional Habitat Development/Mgmt (647) – soil classification; habitat type; type, timing and frequency of management actions.

21) Fencing (382) – quantity and quality of materials; length;

22) Field Border (386) – length and width; species seeded; PLS seeding rate; seeding date; adequacy of seeding (if applicable); type of seedbed preparation; type and amount of mulch, fertilizer, and lime applied; acreage.

23) Filter Strip (393) - width; species seeded; PLS seeding rate, seeding date, and adequacy of seeding; type of seedbed preparation; type and amount of mulch, fertilizer, and lime applied; acreage.

24) Forage Harvest Management (511) – forage species; harvest schedule/date; stubble height; acreage.

25) Forest Harvest Trails and Landings (655) – location map; area, length, and width of landings and forest harvest trails; species or mixtures seeded; PLS seeding rate, seeding date, and adequacy of seeding; type of seedbed

preparation; type and amount of mulch, fertilizer, and lime applied; rock rip-rap and culvert sizes

26) Forest Site Preparation (490) – method of site preparation; date; erosion prediction; rates and types of chemicals; acreage treated.

27) Forest Stand Improvement (666) – location map; spacing, density, size class(s), number, and/or amount of stems removed; method, timing, and control methods and how used; before and after stand measurements; acreage.

28) Geotextile (753) – area to be protected; design velocities, type of armor to be placed on geotextile and calculated weight of geotextile required.

29) Grade Stabilization Structure (410) – hazard classification and drainage area; profile and cross section of dam and earth spillway; size and elevations of pipe inlet and outlet; pipe appurtenances; pipe flow calculations; depth and area of pool; yardage computations when needed; type and quantity of materials; seeding criteria and acreage. For structures with pipe spillways, include all requirements for Pond (378).

30) Grassed Waterway (412) – drainage area, design discharge, length, width, depth and grade; temporary measures (e.g. temporary berm shape and height), location of subsurface drains, seeding criteria; acreage.

31) Heavy Use Area Protection (561) – type of treatment; temporary measures or special measures used; seeding criteria; acreage.

32) Hedgerow Planting (422) – conservation tree/shrub suitability group; species established; site preparation method; planting dates; spacing; planting method; acreage; number of trees;

33) Herbaceous Wind Barrier (422A) – direction of prevailing winds; width of crop strips; width and length of wind barrier strips; species or mixtures seeded; PLS seeding rate; seeding date; adequacy of seeding (if applicable); seedbed preparation; seeding equipment used; type, date, and amount of fertilizer and lime applied; acreage seeded.

34) Incinerator (Interim) (769) – required approvals from regulating authority; capacity of the incinerator based upon the animal type and operation size; site survey; concrete slab, fuel storage, electrical service and roof structure quantities.

35) Irrigation Land Leveling (464) – outlets; quantity computation, when needed; completed grades and elevations; acreage.

36) Irrigation Pit and Regulating Reservoir (552B) - hazard classification and drainage area; profile and cross section of dam and earth spillway; size and elevations of pipe inlet and outlet; pipe appurtenances; pipe flow calculations; depth and area of pool; quantities of materials and clearing; seeding criteria and acreage; sealing; fencing.

37) Irrigation Storage Reservoir (436) - hazard classification and drainage area; profile and cross section of dam and earth spillway; size and elevations of pipe inlet and outlet; pipe appurtenances; pipe flow calculations; depth and area of pool; quantities of materials and clearing; seeding criteria and acreage; sealing; fencing.

38) Irrigation System, Drip (441) – soils investigation of the irrigation site; depth of application and peak water use by the crop; water supply; emitters, orifices, porous tubing or perforated pipe and the lateral and main line capacities, sizes and quantities.

39) Irrigation System, Sprinkler (442) – type of system; adequacy of water source; crops to be irrigated; soil types and infiltration rate; land slopes.

40) Irrigation System – Surface and Subsurface (443) – soils investigation of the irrigation site; depth of application and peak water use by the crop; adequacy of water supply to meet the irrigation demand. For surface irrigation: locations, grades, dimensions, lengths, capacities, and water surface elevations for head ditches or pipelines and distribution ditches. For subsurface irrigation: water table elevation range that will be maintained; locations, grades, dimensions, lengths and capacities of feeder ditches or conduits.

41) Irrigation System – Tailwater Recovery (447) – expected runoff rates; sump storage capacity; anticipated use of the tailwater; collection facilities, sump and return facilities.

42) Irrigation Water Conveyance, Pipeline (430-AA through 430-EE) – manufacturer and markings on pipe; length of lines by size; class of pipe; depth of installation; location and size of stands, vents, checks, air release valves, air vacuum valves, and pressure relief valves; number and location of outlets by size and type; location of thrust blocks; and pressure test results.

43) Irrigation Water Management (449) – water requirements of crops; water holding capacity of soils; schedule of applications for efficient use of water; methods of measuring water to determine rate of application; estimate of tailwater loss; acreage.

44) Lined Waterway or Outlet (468) – drainage area, design discharge, length, width, depth and grade; temporary measures; location of subsurface drains, seeding criteria; acreage.

45) Manure Transfer (634) - analysis of the types, capacities and quantities of manure transfer components.

46) Mulching (484) – type of mulch material; rate and method of application; method to anchor; acreage

47) Nutrient Management (590) – soil tests; manure testing when manure is applied; budget of nutrient applications and use; methods, rate, and timing of nutrient and lime applications; quantity of nutrients applied; crop rotation; actions to protect sensitive water areas; acreage.

48) Pasture and Hayland Planting (512) – species seeded; PLS seeding rate; seeding date; adequacy of seeding (if applicable); type of seedbed preparation; fertilizer and lime applied; acreage.

49) Pest Management (595) – erosion prediction; target pests and period when most vulnerable to control; selected control methods and how used; mitigation practices; hazard potential reports; acreage.

50) Pipeline (516) – length and size of pipeline; flow rate calculations; type of pipeline and markings on the pipe; appurtenances; grade and elevations; subgrade material; backfill material and placement.

51) Pond (378) - hazard classification and drainage area; profile and cross section of dam and earth spillway; size and elevations of pipe inlet and outlet; pipe appurtenances; pipe flow calculations; depth and area of pool; yardage computations when needed; quantities of materials and clearing; seeding criteria and acreage; sealing; fencing.

52) Pond Sealing or Lining (521A-521C) – areas of varying seepage rates, gradations and chemical properties of the soil to be treated; treated surface area.

53) Prescribed Burning (338) – location of the burn; management objectives of the burn; pre-burn vegetative description of the area to be burned; prescription for weather conditions required; description of burning method used; description of pre-burn preparation; firing sequence; job assignments, responsibilities and necessary job approval for all persons assisting with the burn; equipment and materials checklist; post-burn evaluation; acreage.

54) Prescribed Grazing (528A) – season of use; intensity, frequency and duration of use; length of rest periods; grazing height; forage

inventory/quantity; livestock inventory/demand; livestock-forage balance; acreage.

55) Pumping Plant for Water Control (533) - water demand or removal rates as appropriate; operating environment and conditions; horsepower requirements, pump efficiency, and total head on the pumps; soil mechanics testing and analysis for the suction and discharge pipes and pumping plant foundation.

56) Recreation Area Improvement (562) - species seeded or planted; PLS seeding rate; seeding date; adequacy of seeding (if applicable); type of seedbed preparation; type and amount of mulch, fertilizer, and lime applied; conservation tree/shrub suitability group; woody species spacing in row and between rows; number of trees; acreage.

57) Recreation Trail and Walkway (568) – location maps; necessary permits; grades and cross-sections; construction check survey; soils/subsurface investigation report, where applicable;

58) Reinforced Concrete (750) - strength requirements for concrete and steel; concrete dimensions and the reinforcing steel sizes, spacings, and clearances; cubic yards of concrete; pounds of reinforcing steel.

59) Residue Management, No Till or Strip Till (329A) – planting equipment used and accessories; residue at planting; erosion prediction; acreage.

60) Residue Management, Mulch Till (329B) – estimated residue at harvest; kinds, types, and timing of tillage operations; residue at planting; erosion prediction; acreage.

61) Residue Management, Ridge Till (329C) – estimated residue at harvest; kinds, types, and timing of tillage operations; residue at planting; erosion prediction; acreage.

62) Residue Management, Seasonal (344) – estimated residue at harvest; kinds, types, and timing of tillage operations; residue at planting; erosion prediction; acreage

63) Restoration and Management of Declining Habitat (643) – natural community type established; method of establishment; species seeded; PLS seeding rate; seeding date; site preparation; planting dates; spacing; maintenance needs; acreage.

64) Riparian Forest Buffer (391) – conservation tree/shrub suitability group; site preparation; species; spacing in row and between rows; date and method of planting; number of trees; acreage.

65) Runoff Management System (570) – peak discharges for the site (before and after); design components for peak discharges.

66) Sediment Basin (350) – predicted sediment and/or debris yield for the site; basin size to store the predicted sediment and debris yield;

67) Shallow Water Management for Wildlife (646) – habitat type established or managed; soil permeability and water supply; average depth and area of pool; dimension of water control structure, if present.

68) Spring Development (574) – dimensions of collection system; spring box; outlet flow rate calculations; quantities; water trough, if installed.

69) Streambank and Shoreline Protection (580) – stream classification; channel and valley alignment; grade and cross section; bankfull discharge and velocities; sediment load and bed materials; starting and ending points for the restoration; quantities for the stabilization measures and practices to be utilized; permits and authorizations; length of treatment.

70) Structure for Water Control (587) – capacity; profile of structure from a stable inlet to a stable outlet point; buoyancy and loading calculations on structure; soil mechanics testing and analysis for foundation of structure; quantities.

71) Subsurface Drain (606) – drainage capacity; physical and chemical properties of the soil; grade surveys; conduit capacities and velocities; quantities.

72) Surface Drainage – Field Ditch (607) – topographic survey of site; runoff discharge computations; seepage rates or excess irrigation water recovery rates as appropriate; soils; ditch capacity and velocity computations; cross section; channel roughness; excavation quantities; spoil areas; permits and authorities.

73) Surface Drainage, Main or Lateral (608) – topographic survey of site; runoff discharge computations; seepage rates or excess irrigation water recovery rates as appropriate; soils; ditch capacity and velocity computations; cross section; channel roughness; excavation quantities; spoil areas; permits and authorities.

74) Terrace (600) – profile of channel and ridge and cross section for one terrace in each field; land slope and spacing; type and adequacy of outlet; length of each terrace; drainage area controlled; seeding criteria, when necessary.

75) Tree/Shrub Establishment (612) – conservation tree/shrub suitability group; site preparation; species; spacing in row and between rows; date and method of planting; number of trees; weed control measures; acreage.

76) Tree/Shrub Pruning (660) – time of year; species; pruning height; number of trees; site location.

77) Trough or Tank (614) – area to be served by the tank; livestock water requirements; size and volume of tank; source of water; quantity and flow or recharge rate of water.

78) Underground Outlet (620) – length by size and kind; outlet protection; adequacy of cover; inlet capacity; basin storage.

79) Upland Wildlife Habitat Management (645) – Wildlife Habitat Appraisal Guide score; vegetation established or managed; method of establishment; species seeded, PLS seeding rate, seeding date, adequacy of seeding, seedbed preparation; tree/shrub planting: use Tree/Shrub Establishment (612).

80) Use Exclusion (472) – type of exclusion; quality and quantity of materials; length of exclusion; land use excluded; acreage.

81) Vegetative Barrier (601) – location of barriers; width of crop between barriers; orientation of barriers; width and length of barriers; seedbed preparation; vegetative species and cultivar; type of planting stock; establishment date, rate, and spacing; planting equipment used; acreage.

82) Vertical Drain (630) – geologic investigation for underlying strata; peak watershed runoff computations; quantities; drainage area.

83) Waste Storage Facility (313) – size, length, width, depth, and thickness of walls; inlet; vent and safety feature details; type of construction; reinforcing; and if prefabricated, the manufacture, markings, certification, and dimensions. If a pond, profile and cross section of embankment; pump-down markers; size and depth of lagoon; volume of lagoon; sealing if needed; uncontrolled drainage area; seeding criteria and acreage.

84) Waste Treatment Lagoon (359) – profile and cross section of embankment; pump-down markers; size and depth of lagoon; volume of lagoon; sealing if needed; uncontrolled drainage area; seeding criteria; acreage.

85) Waste Utilization (633) – waste used as nutrient source has same requirements as listed for Nutrient Management (590); alternative utilizations must have documentation of the specific parameter(s) that are needed to justify the use.

86) Water and Sediment Control Basin (638) – profile of channel and ridge; cross section of ridge; land slope; horizontal interval (if more than one); adequacy of outlet; length of each ridge; drainage area; storage calculation; yardage computations when needed; seeding criteria, when needed.

87) Water Well (642) – required water demand; geologic maps; reports and well records; well's area of influence; water quality tests.

88) Well Decommissioning (351) – sealing materials by type; size (inside diameter) and type of well casing; depth of well; copy of Registration Record; seeding criteria.

89) Wetland Creation (658) – soil permeability and water supply; wetland functions established; hydric soil conditions; vegetation established; average depth and area of pool; dimensions of water control structures; water management activities; acreage.

90) Wetland Enhancement (659) – soil permeability and water supply; wetland functions established; hydric soil conditions; vegetation established; average depth and area of pool; dimensions of water control structures; water management activities; acreage.

91) Wetland Restoration (657) – profiles and cross sections of embankment centerline; soil permeability and water supply; wetland functions established; hydric soil conditions; vegetation established; average depth and area of pool; dimensions of water control structures; water management activities; acreage.

92) Wetland Wildlife Habitat Management (644) – Wildlife Habitat Appraisal Guide score; vegetation established or managed; method of establishment; species seeded; PLS seeding rate; seeding date; type of seedbed preparation; tree/shrub planting documentation – use Tree/Shrub Establishment (612).

93) Wildlife Watering Facility (648) – location; use exclusion method; drainage area; profile and cross section of dam and earth spillway; size and elevations of pipe inlet and outlet; pipe appurtenances; pipe flow calculations; depth and area of pool; yardage computations when needed; type and quantity of materials; seeding criteria and acreage; if installed, dimensions of collection system; spring box; outlet flow rate calculations; quantities; water trough.

94) Windbreak/Shelterbelt Establishment (380) – conservation tree/shrub suitability group; species; spacing in row and between rows; length of rows; distance from structure being protected; date and method of planting; acreage; number of trees.

Checking completed work.

Check completed work for compliance with plans and specifications. The checker is to record components that were completed or list the deficiencies for practices that do not meet the minimum requirements.

Sampling can be used to record supporting data for jobs with a number of similar components such as a system of terraces, subsurface drains, pipelines, drainage or irrigation field ditches, small laterals, and small structures for water control such as checks, turnouts, and pipe drops. The sample should be selected from segments or parts that appear least likely to meet specifications. The checker is to be satisfied that the entire job meets specifications and is to record supporting data for the selected sample. The location of the sampled practices is to be identified.

The supporting data for some practices will include computations for quantity. Computations made when the structure or practice was designed suffice if there are no deviations from the original design.

Class I, II, III, and IV engineering jobs are to be reviewed and accepted by those having appropriate approval authority before the installation is started. Design and installation must conform to approved NRCS technical standards and specifications. The qualified/certified individuals will furnish appropriate information and measurements to show that NRCS standards and specifications have been met. Backup data need not be in the same format used by NRCS but must be legible, concise and understandable. Denote on MO-NRCS-LTP-4 those jobs for which practice checks were made.

Certifying performance for cost share, incentive payments, or completed practices.

Certify performance on all identifiable units of the practice that are completed according to the plans and specifications. The measurements, computations, or other data to support certification can be recorded on job plans, field notes, and special forms.

In certifying performance of practices that are cost shared according to the proportion of total cost, report compliance or noncompliance with approved technical specifications and the amount of the practice performed in applicable cost share units. The recipient is responsible to present documentation to the appropriate agency for the amount of machine time, labor, and materials used to determine cost share payments.

If performance has been properly completed, except for items the recipient can check, state this on the certification. This procedure should be followed only when there is good reason to expect that the recipient will follow through promptly. Discuss these items so that the recipient understands what he or she is expected to do.

(For further information and detail refer to MO450-407, GM, Amendment MO-13, November 2003)